TABLE 45

Domestic R&D paid for by sources located outside the United States and performed by the company, by source of funds, industry, and company size: 2018 (Millions of U.S. dollars)

		Foreign companies				Foreign universities,		
Industry and company size	NAICS code	Total	Subsidiaries	Company's s <sup>a</sup> parent	Unaffiliate companie		colleges, and	All other
All industries	21-23, 31-33, 42-81	42,438	23,515	15,775	2,558	248	5	337 i
Manufacturing industries	31-33	31,065	16,101	12,871	1,752	183 - 230	*	108 - 159
Food	311	317	82	i 235	*	i 0	0	0
Beverage and tobacco products	312	118	11	106	0	0	0	0
Textile, apparel, and leather products	313-16	1	1	* i	0	0	0	0
Wood products	321	4	0	4	*	i 0	0	* i
Paper	322	1	*	1	0	0	0	0
Printing and related support activities	323	3	0	3	*	i 0	0	* i
Petroleum and coal products	324	189	171	18	1	0	0	0
Chemicals	325	10,716	2,697	6,811	1,190	0	*	19
Basic chemicals	3251	198	18	168	12	0	0	0
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	80	1	71 - 80	0 - 7	i 0	0	* i
Pesticide, fertilizer, and other agricultural chemicals	3253	315 - 323	0	310 - 323	0 - 7	i 0	0	* i
Pharmaceuticals and medicines	3254	9,936	2,640	6,103	1,173	0	*	18
Soap, cleaning compound, and toilet preparation	3256	129 - 178	0 - 40	125 - 138	0 - 7	i 0	0	* i
Paint, coating, adhesive, and other chemicals	3255, 3259	2 - 52	0 - 40	0 - 11	0 - 7	i 0	0	* i
Plastics and rubber products	326	50	38	11	*	0	0	0
Nonmetallic mineral products	327	26	11	15	*	0	0	0
Primary metals	331	15	3	5 i	7	*	0	0
Fabricated metal products	332	49	3	46	*	i *	i 0	* i
Machinery	333	792	127	598 - 666	0 - 66	0	0	0
Agricultural implement	33311	17	10	0 - 8	0 - 8	0	0	0
Semiconductor machinery	333242	540	0	473 - 541	0 - 66	0	0	0
Engine, turbine, and power transmission equipment	3336	18	2	15	0	0	0	0
Other machinery	other 333	217	114	36 - 104	0 - 66	0	0	0
Computer and electronic products	334	15,492	12,418	2,645	321	0 - 47	*	59 - 110
Communications equipment	3342	3,708	3,588	109	8	*	i 0	3

TABLE 45

Domestic R&D paid for by sources located outside the United States and performed by the company, by source of funds, industry, and company size: 2018 (Millions of U.S. dollars)

			Foreign companies						Foreign	
Industry and company size	NAICS code	Total	Subsidiaries <sup>6</sup>	Company's a parent	Unaffiliat compani		Foreigi governm agencie	ent	universities, colleges, and academic researchers	All other
Semiconductor and other electronic components	3344	3,375	1,294	1,879	194		0 - 10		*	0 - 10
Navigational, measuring, electromedical, and control instruments	3345	910	129	561 - 659	23 - 121		0 - 47		0	45 - 108
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	209	57	151	*	i	0		0	* i
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument	334511	488	0 - 60	210 - 417	0 - 121		0 - 47		0	45 - 108
Other measuring and controlling device	other 3345	214	13 - 73	20 - 200	0 - 121		0		0	0
Other computer and electronic products	other 334	7,499	7,406	0 - 94	0 - 94		0		0	0
Electrical equipment, appliances, and components	335	313	111	191	11		0		0	0
Transportation equipment	336	2,374	104	1,906	151		184		0	29
Motor vehicles, bodies, trailers, and parts	3361-63	2,065	87	1,882	96		0		0	*
Aerospace products and parts	3364	282 - 299	16	0 - 16	55		184		0	29
Aircraft, aircraft engine, and aircraft parts	336411-13	282 - 299	16	0 - 16	55		184		0	29
Guided missile, space vehicle, and related parts	336414-15, 336419	0	0	0	0		0		0	0
Military armored vehicle, tank, and tank component	336992	0	0	0	0		0		0	0
Other transportation	other 336	9 - 26	0	8 - 25	*	i	*	i	0	0
Furniture and related products	337	6	6	* i	*	i	*	i	0	* i
Miscellaneous	339	597	320	202 - 270 i	8 - 75		0		0	0
Medical equipment and supplies	3391	478	319	150	9		0		0	0
Other miscellaneous manufacturing	3399	119	i *	52 - 119 i	0 - 66	i	0		0	0
Nonmanufacturing industries	21-23, 42-81	11,374	7,414	2,904	806		18 - 65		4	178 - 229 i
Mining, quarrying, oil and gas extraction, and support activities	21	550	510 - 547	0	4 - 39		0		0	0
Utilities	22	4	0	3	1		0		0	0
Wholesale trade	42	28	3	24	1		0		0	0
Electronic shopping and electronic auctions	454111-12	92 - 1,266	0 - 1,173	93	0		0		0	0
Transportation and warehousing	48-49	3	3	0	0		0		0	0
Information	51	4,895	i 4,165 i	605	124		0		0	* i
Publishing	511	1,226	803	319	104		0		0	* i
Newspaper, periodical, book, and directory publishers	5111	*	0	0	*	i	0		0	0
Software publishers	5112	1,225	803	319	104		0		0	* i

TABLE 45

Domestic R&D paid for by sources located outside the United States and performed by the company, by source of funds, industry, and company size: 2018 (Millions of U.S. dollars)

			Foi			Foreign			
Industry and company size	NAICS code	Total	Subsidiaries	Company's a parent	Unaffiliate companie		nent	universities, colleges, and academic researchers	c
Telecommunications	517	51 - 72	24	27 - 47	0	0		0	0
Data processing, hosting, and related services	518	343	182	138 - 162	0 - 21	0		0	* i
Other information	other 51	3,253 - 3,274	3,156 i	76 - 117	0 - 21	i 0		0	* i
Finance and insurance	52	891	891	0	0	0		0	0
Real estate and rental and leasing	53	0	0	0	0	0		0	0
Lessors of nonfinancial intangible assets (except copyrighted works)	533	0	0	0	0	0		0	0
Other real estate and rental and leasing	other 53	0	0	0	0	0		0	0
Professional, scientific, and technical services	54	3,716	669	2,162	635	18 - 65		4	178 - 229 i
Architectural, engineering, and related services	5413	295	29	41	15	0 - 47		0 - 5	161 - 212 i
Computer systems design and related services	5415	1,403	54	1,334	9	0 - 8		0 - 5	0
Scientific research and development services	5417	1,350	16	715	586	19		0 - 5	10 - 17
Research and development in biotechnology	541711	420	0	106	303	*	i	0	11
Research and development in the physical, engineering, and life sciences (except biotechnology)	541712	930	16	609	282	19		0 - 5	0 - 6
Research and development in the social sciences and humanities	541720	*	0	0	0	*		0	0
Other professional, scientific, and technical services	other 54	668	570	73	25	0		0	* j
Health care services	621-23	9 i	0	0	9	i 0		0	0
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	16 - 1,190	0 - 1,173	17	0 - 30	0		0	0
All companies (number of domestic employees)	-	42,438	23,515	15,775	2,558	248		5	337 i
Small companies									
10-19 <sup>b</sup>	-	231	21	145	38	22		1	5
20-49	-	1,023	649	333	38	i 2		2	* j
Medium companies									
50-99	-	792	140	522	121	*	i	*	9
100-249	-	1,993	463	1,457	58	10		1	4
Large companies									

National Center for Science and Engineering Statistics | NSF 21-312

TABLE 45

Domestic R&D paid for by sources located outside the United States and performed by the company, by source of funds, industry, and company size: 2018 (Millions of U.S. dollars)

Industry and company size	NAICS code	Total	For	reign compar Company's a parent			Foreign universities, colleges, and academic researchers	All other
250-499	-	1,677	352	1,084	233	* i	* i	8
500-999	-	2,298	798	909	382	* i	* i	209 i
1,000-4,999	-	9,367	2,016	6,842	493	*	*	15
5,000-9,999	-	2,728 i	1,926 i	359	443	0	0	* i
10,000-24,999	-	9,091 i	4,533 i	3,881	677	0	0	0
25,000 or more	-	13,238	12,617	243	76	214	0	87

<sup>\* =</sup> amount < \$500,000; i = > 50% of the estimate is a combination of imputation and reweighting to account for nonresponse.

NAICS = 2012 North American Industry Classification System.

## Note(s):

Detail may not add to total because of rounding. Industry classification is based on the dominant business code for domestic R&D performance, where available. For companies that did not report business codes, the classification used for sampling was assigned. Beginning in survey year 2018, statistics are representative of companies located in the United States that performed or funded \$50,000 or more of R&D. This change has affected the comparability of these estimates with estimates published for years prior to 2018. In all other tables, R&D costs of foreign-company subsidiaries of U.S. companies are included in company-funded U.S. domestic R&D totals. Only in this table are such R&D costs classified as being part of R&D paid for by sources located outside of the United States. An estimate range may be displayed in place of a single estimate to avoid disclosing operations of individual companies.

## Source(s):

National Center for Science and Engineering Statistics and U.S. Census Bureau, Business Research and Development Survey, 2018.

<sup>&</sup>lt;sup>a</sup> Statistics are based on companies in the United States that reported to the survey. No systematic item imputation was applied. These statistics include an adjustment to the weight to account for unit nonresponse.

<sup>&</sup>lt;sup>b</sup> Business Research and Development Survey does not include companies with fewer than 10 domestic employees.